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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,556	02/27/2002	Tadashi Yamaura	1163-0395P	5580

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EXAMINER
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VO, HUYEN X

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/083,556

Applicant(s)

YAMAURA ET AL.

Examiner

Huyen Vo

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/8/04 and 2/27/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Gao (US Patent No. 6556966).

3. Regarding claims 1-2, Gao discloses a speech encoding apparatus and method comprising: spectral envelope information encoding means for extracting spectral envelope information on an input speech, and encoding the spectral envelope information (*referring to figure 6, CELP coder is well known*); excitation information encoding means for, by use of said spectral envelope information extracted by said spectral envelope information encoding means, determining adaptive excitation code, fixed excitation code, and gain code with which an encoding distortion of a synthesized speech to be generated is minimized (*referring to figure 6, CELP coder is well known*); and multiplexing means for multiplexing said spectral envelope information encoded by said spectral envelope information encoding means and said adaptive excitation code, said fixed excitation code, and said gain code each determined by said excitation information encoding means so as to output speech code (*referring to figure 6, CELP*

*coder is well known*); wherein said excitation information encoding means includes: fixed excitation encoding means for evaluating encoding distortions of fixed code vectors stored in a plurality of fixed excitation code books to determine said fixed excitation code (*col. 16, lines 19-67*); first periodicity providing means for, when said encoding distortions of said fixed code vectors are evaluated, emphasizing periodicity of a fixed code vector output from at least one fixed excitation code book by use of a first periodicity emphasis coefficient adaptively determined based on a predetermined rule (*col. 13, line 40 to col. 15, line 61, pitch/periodicity information is used to determine the best adaptive codebook vector that yields the least long-term error. The long-term error information is used to determine three best fixed codebook vectors (col. 16, lines 19-67)*); and second periodicity providing means for emphasizing periodicity of a fixed code vector output from at least one fixed excitation code book by use of a predetermined second periodicity emphasis coefficient (*col. 13, line 40 to col. 15, line 61, wherein the second periodicity information is the pitch information*).

4. Regarding claims 3-4, Gao further discloses the speech encoding method as claimed in claim 2, wherein said speech encoding method analyzes said input speech to determine said first periodicity emphasis coefficient (*Pitch Track 348 in figure 6*), wherein said speech encoding method determines said first periodicity emphasis coefficient from speech code (*Pitch Track 348 in figure 6*).

5. Regarding claims 5-7, Gao further discloses the speech encoding method as claimed in claim 4, wherein said speech encoding method decides a state of a speech, and determines said first periodicity emphasis coefficient based on the state decision result (*col. 13, lines 5-63, voice activity detector*), and wherein said speech encoding method determines a fricative section in a speech, and decreases an emphasis degree of said first periodicity emphasis coefficient in the fricative section (*col. 13, lines 40-63*), and wherein said speech encoding method determines a steady voice section in a speech, and increases an emphasis degree of said first periodicity emphasis coefficient in the steady voice section (*col. 13, lines 60-63*).

6. Regarding claim 8, Gao further discloses the speech encoding method as claimed in claim 2, wherein, based on noise characteristics of fixed code vectors stored in the fixed excitation code book, said speech encoding method applies either said first periodicity providing step or said second periodicity providing step to the fixed excitation code book (*the operation of figure 6, long-term error derived from the pitch/periodicity information is used to determine the best codebook vector among codebook vectors stored in the fixed codebook*).

7. Regarding claim 9, Gao further discloses the speech encoding method as claimed in claim 2, wherein, based on power distribution of fixed code vectors in terms of time stored in the fixed excitation code book, said speech encoding method applies either said first periodicity providing step or said second periodicity providing step to the

fixed excitation code book (*the operation of figure 6 and/or referring to col. 16, lines 51-67, particularly WMSE*).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gao (US Patent No. 6556966).

10. Regarding claims 10-18, Gao further discloses a speech decoding apparatus and method, which is an inverse operation of an encoding apparatus and method claimed in claims 1-9. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to implement features having inverse operation of the claimed encoder in order to recover the encoded signal.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen Vo whose telephone number is 703-305-8665. The examiner can normally be reached on M-F, 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Huyen X. Vo

March 7, 2005

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SUSAN MCFADDEN  
PRIMARY EXAMINER